

List of All Chemicals

P Betula lenta (Betulaceae)

Common name(s)

Cherry Birch

How used

Medicinal

*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Chemical	Plant Part	Low PPM	High PPM	StdDev	*Reference
ALPHA-BETULENOL	Plant	--	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
ASH	Leaf	--	77000.0	-0.74	Jim Duke's personal files.*
BETA-BETULENOL	Plant	--	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
BETULIN	Heart Wood	--	--		Jim Duke's personal files.

Activities (13)

AntiHIV 6.1 uM					
Anticarcinomic					
Antifeedant					
Antiflu					
Antiinflammatory					Recio, M., et al. 1994. Investigations on the Steroidal Anti-Inflammatory Activity of Triterpenoids from <i>Diospyros leucomelas</i> *. <i>Planta Medica</i> , 61: 9.
Antitumor					Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antiviral 6.1 uM					
Aphidifuge					Lugemwa, F.N., Huang, F-Y., Bentley, M.D., Mendel, M.J., and Alford, A.R. 1990. A <i>Heliothis zea</i> Antifeedant from the Abundant Birchbark Triterpene Betulin. <i>J. Agric. Food Chem.</i> 38(2): 493-494.
Cytotoxic 600 ppm					
Cytotoxic 8.6 uM					
Hypolipemic					
Prostaglandin-Synthesis-Inhibitor IC50=119 uM					Huang, C., Tunon, H., Bohlin, L. 1995. Anti-Inflammatory Compounds Isolated from <i>Menyanthes trifoliata</i> L. <i>Yao Hsueh Hsueh Pao</i> , 30(8): 621-626.
Topoisomerase-II-Inhibitor IC50=38.6 uM					
BETULIN	Bark	--	500.0	-0.34	Jim Duke's personal files.

Activities (13)

AntiHIV 6.1 uM					
Anticarcinomic					
Antifeedant					
Antiflu					
Antiinflammatory					Recio, M., et al. 1994. Investigations on the Steroidal Anti-Inflammatory Activity of Triterpenoids from <i>Diospyros leucomelas</i> *. <i>Planta Medica</i> , 61: 9.
Antitumor					Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antiviral 6.1 uM					
Aphidifuge					Lugemwa, F.N., Huang, F-Y., Bentley, M.D., Mendel, M.J., and Alford, A.R. 1990. A <i>Heliothis zea</i> Antifeedant from the Abundant Birchbark Triterpene Betulin. <i>J. Agric. Food Chem.</i> 38(2): 493-494.
Cytotoxic 600 ppm					
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Hypolipemic					
Prostaglandin-Synthesis-Inhibitor IC50=119 uM					Huang, C., Tunon, H., Bohlin, L. 1995. Anti-Inflammatory Compounds Isolated from <i>Menyanthes trifoliata</i> L. <i>Yao Hsueh Hsueh Pao</i> , 30(8): 621-626.
Topoisomerase-II-Inhibitor IC50=38.6 uM					
BETULINIC-ACID	Bark	--	--		Jim Duke's personal files.

Activities (22)

Anthelmintic					
AntiHIV EC50=2.0 ug/ml					Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61(9): 1090-1095.

AntiHIV	14.8 uM
Antibacterial	
Anticancer	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Anticarcinomic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antiedemic	
Antiinflammatory	Recio, M., et al. 1994. Investigations on the Steroidal Anti-Inflammatory Activity of Triterpenoids from <i>Diospyros leucomelas</i> *. <i>Planta Medica</i> , 61: 9.
Antileukemic	
Antimalarial IC50=19-26 ug/ml	
Antimelanomic	New York Times, 3/28/95.
Antinociceptive	
Antiplasmoidal IC50=19-26 ug/ml	
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antiviral 14.8 uM	
Apoptotic	
Cytotoxic 50-100 ppm	Biosyn. Prod. Cancer Chemotherapy (Petit et al)
Cytotoxic 16.4 uM	
Phospholipase-A2-Inhibitor	
Prostaglandin-Synthesis-Inhibitor 200 ug/ml	Dunstan, C. A., Liu, B., Welch, C. J., Perera, P., Bohlin, L. 1998. Alphitol, a Phenolic Substance from <i>Alphitonia zizyphoides</i> which Inhibits Prostaglandin Biosynthesis in vitro. <i>Phytochemistry</i> , 48(3): 495-497.
Prostaglandin-Synthesis-Inhibitor IC50=101 uM	Huang, C., Tunon, H., Bohlin, L. 1995. Anti-Inflammatory Compounds Isolated from <i>Menyanthes trifoliata</i> L. <i>Yao Hsueh Hsueh Pao</i> , 30(8): 621-626.

BETULOL	Bud	--	--		List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
CARBOHYDRATES	Leaf	--	556000.0	-0.44	Jim Duke's personal files.*
EO	Bark	2300.0	6000.0	-0.44	List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
EO	Bud	40000.0	60000.0	1.28	List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
FAT	Leaf	--	86000.0	0.59	Jim Duke's personal files.*
FIBER	Leaf	--	169000.0	0.09	Jim Duke's personal files.*

Activities (15)

Angiotensin-Receptor-Blocker	
Antidiabetic	
Antihypertensive	
Antiobesity	
Antitumor	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Antiulcer	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Beta-Blocker	
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli.</i> Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Cardioprotective	
Diuretic	
Hypocholesterolemic	
Hypotensive 10 g/man/day/orl	Pizzorno, J.E. and Murray, M.T. 1985. <i>A Textbook of Natural Medicine.</i> John Bastyr College Publications, Seattle, Washington (Looseleaf).
Hypouricemic	
Laxative	
Vasodilator	

METHYL-SALICYLATE	Bark	2231.0	5988.0	*
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Activities (21)

Allergenic	Martindale's 28th
Analgesic	
Anaphrodisiac	
Antiinflammatory	Planta Medica, 56(6): 660, 1990.
Antioxidant	
Antipyretic	
Antiradicular	O'Connell, M.J., Webster, N.R. 1989. Hyperoxia and salicylate metabolism in rats. <i>J. Pharm. Pharmacol.</i> 42: 205-206, 1990.
Antirheumatalgic	Martindale's 28th
Antiseptic	
Antitartar	

FREVENTIVE					
Carminative					
Counterirritant	Merck 11th Edition				
Dentifrice	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
FLavor FEMA 70-8,000	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Fungicide					
Herpetifuge					
Insectifuge	Hardie, J., Isaacs, R., Pickett,* J.A., Wadhams, L.J., and Woodcock, C.M. 1994. Methyl Salicylate and (-)-(1R,5S)-Myrtenal are Plant-Derived Repellents for Black Bean Aphid, <i>Aphis Fabae</i> Scop. (Homoptera: Aphididae). <i>J. of Chemical Ecology</i> , 20(11):2847.				
Insectiphile					
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry				
Pesticide					
MONOTROPITOSIDE	Bark	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
PROTEIN	Leaf	--	281000.0	0.69	Jim Duke's personal files.*
SALICYLATES	Plant	--	6000.0	*	
Activities (7)					
Antiaggregant	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.				
Antiinflammatory	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.				
Antipyretic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.				
Antiuricosuric	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.				
Hyperglycemic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.				
Hypoglycemic	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.				
Uricosuric	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.				
SALICYLIC-ACID	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Activities (34)					
Aldose-Reductase-Inhibitor 724.6 uM	Toyomizu, M., Sugiyama, S., Jin, R. L., Nakatsu, T. 1993. Alpha-Glucosidase and Aldose Reductase Inhibitors: Constituents of Cashew, <i>Anacardium occidentale</i> , Nut Shell Liquids. <i>Phytotherapy Research</i> , 7(3): 252-254.				
Analgesic					
Antiarthritic	Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.				
Antibacterial	Martindale's 28th				
Antidandruff	A.L.L. Hunting. <i>Encyclopedia of Shampoo Ingredients</i> . Micelle Press, Cranford NJ. 467 pp.				
Antidermatotic					
Antieczemic					
Antiichthyosic	Martindale's 29th				
Antiinflammatory	Pharmazie, 46: 156, 1991.				
Antineuragic	Madaus, G. 1976. <i>Lehrbuch der Biologischen Hilfsmittel</i> . Vol. 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus.				
Antioncychomycotic	Martindale's 29th				
Antioxidant	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.				
Antiperiodic					
Antipodagric					
Antipsoriac					
Antipyretic					
Antirheumatic					
Antiseborrheic					
Antiseptic	A.L.L. Hunting. <i>Encyclopedia of Shampoo Ingredients</i> . Micelle Press, Cranford NJ. 467 pp.				
Antitumor					
Antitympanitic	Merck 11th Edition				
COX-2-Inhibitor	Newmark, T. M. and Schulick, P. 2000. <i>Herbal Cox-2 Inhibition - Nature's Challenge to Arthritis, Cancer & Alzheimer's Disease</i> . Hohm Press, Prescott AZ.				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.				
Comedolytic	Martindale's 29th				
Cyclooxygenase-Inhibitor					
Dermatitigenic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Fungicide MIC 1,000 ug/ml					
Hypoglycemic	Economic & Medicinal Plant Research, 6: 158.				
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.				
Keratolytic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.				
Pesticide					

Tineacide
Ulcerogenic

Martindale's 29th